

REDESCRIPTION OF *AGAPETUS AVITUS* EDWARDS  
(TRICHOPTERA: GLOSSOSOMATIDAE) WITH NOTES ON  
MORPHOLOGICAL VARIATION AND DISTRIBUTION

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*Abstract.*—*Agapetus avitus* Edwards is redescribed and illustrated. Morphological variation present in the genitalia and distribution of the species is summarized.

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In examining several collections of *Agapetus* (Trichoptera: Glossosomatidae) from northern Alabama, a number of specimens were tentatively identified as *Agapetus avitus* Edwards. These specimens could not be positively identified using

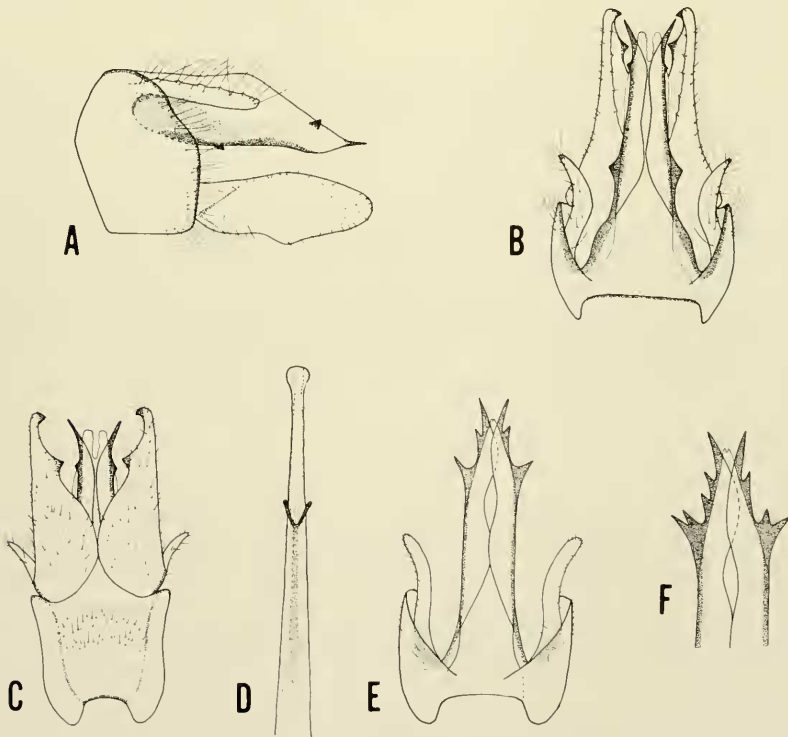


Fig. 1. *Agapetus avitus*, male genitalia. a-d, Redrawn from holotype. a, Lateral view. b, Dorsal view. c, ventral view. d, Phallus. e-f, Variation in genitalia; specimens from north Alabama. e, Tenth tergum, dorsal view. f, Apical portion of tenth tergum, dorsal view.

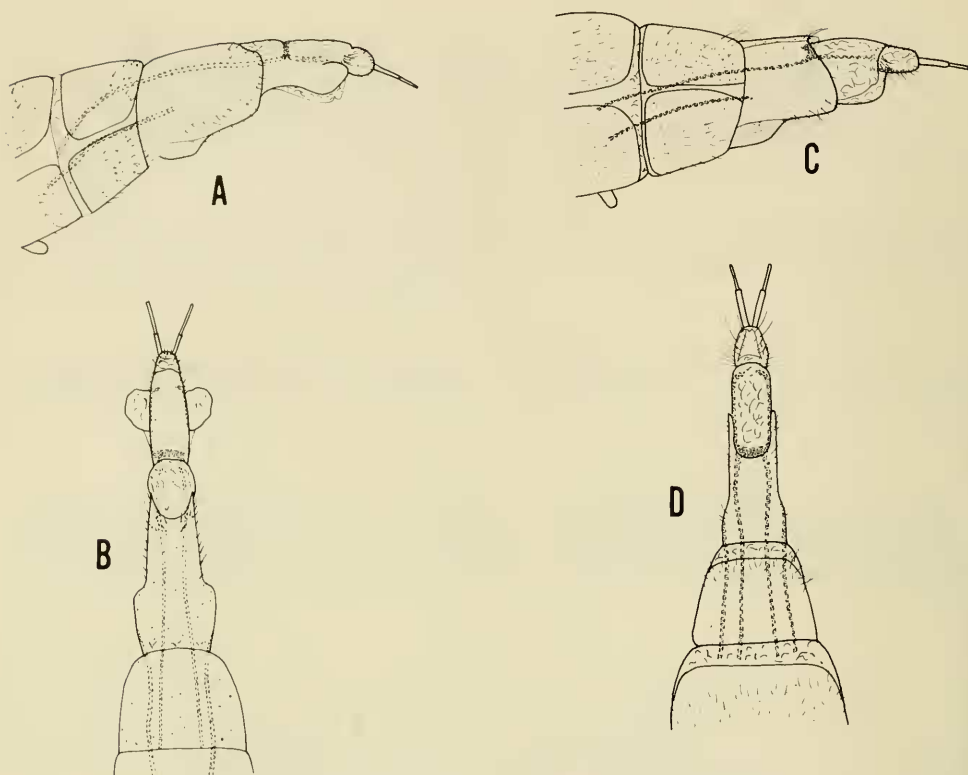


Fig. 2. *Agapetus avitus*, female terminalia. a-b, Redrawn from allotype. a, Lateral view. b, Dorsal view. c-d, Variation in terminalia, specimen from north Alabama. c, Lateral view. d, Dorsal view.

the original species description and illustrations of Edwards (1956). A final identification was made only after a comparison with the holotype and examining the extent of morphological variation in material from several locations in both Alabama and Tennessee. The redescription of *A. avitus* from the holotype and allotype of Edwards and the discussion of morphological variation which follows should simplify future identifications.

#### *Agapetus avitus* Edwards

Figs. 1-2

Male (Fig. 1a-d). — Length 6 mm. Wings, legs, and abdominal segments brown; head and thorax dark brown. Antennal segments 28. Abdominal segment IX quadrate in lateral view, incised dorsally and continuous with tenth tergum. Pre-anal appendages (cerci) thin, in dorsal view gradually curving laterally, extending about half the length of segment X, fused basally with dorso-lateral edge of segment IX. Inferior appendages (claspers) in lateral view parallel sided basally, rounded distally; triangular ventrally with ventro-mesal edge bearing a heavily sclerotized spine apically and subapically. Tenth tergite elongate, wide basally tapering to apex; membranous dorsally with pair of lobes distally, ventral portion divided into two sclerotized arms, each heavily sclerotized at ventro-lateral margin and



Fig. 3. Distribution of *Agapetus avitus* in the southeastern United States.

terminating in a long, acute spine, with small spine subapically and broad spine near base. Phallus typical for genus, elongate, tapering distally, bulbous at apex.

Female (Fig. 2a–b).—In general, appearance similar to male. Length 6 mm (pharate adult). Antennal segments 28. Abdominal segment VII quadrate and lightly sclerotized, ridged ventro-laterally, incised dorsally on distal margin; pair of apodemes extending from midsegment anteriorly to segment V. Segment VIII tubular, membranous, and often retracted into VII; pair of apodemes extending from distal portion of segment anteriorly to segment V margin. Segment IX rectangular, membranous, with lateral wing-like lobes; pair of sclerotic rods at dorso-lateral margin connected anteriorly by heavily sclerotized dorsal bridge. Segment X membranous, rounded distally with pair of two-segmented cerci.

Morphological variation.—The species varies in size from 5.8–6.6 mm with males and females similarly sized. Coloration varies little in the species. Most of the variation in the 84 specimens examined from Tennessee and Alabama occurred in features of the genitalia. In the males, this variation appears restricted primarily to the shape and structure of the tenth tergum. In females, the appearance of abdominal segment IX is variable.

In the holotype, the tenth tergum, in dorsal view, is wide at its base with the ventral arms possessing two pair of spines apically and another pair basally (Fig. 1b). In examined specimens, the tenth tergum is often narrow and parallel sided (Fig. 1e), although intermediates between the two extremes exist. The spinal

arrangement of the arms varies from 4 to 10 spines distally (Fig. 1e and 1f). The heavy spines present basally on the holotype were absent in all specimens I examined. Unfortunately, the paratype series denoted by Edwards (1956) was destroyed in an accident (S. Edwards, personal communication) making further analysis of this character impossible.

In females, the membranous, wing-like lateral lobes of the ninth abdominal segment (as seen on the allotype (Fig. 2b)) are closely appressed in most specimens (Fig. 2c and 2d). The specimen designated as allotype by Edwards (1956) was a pharate adult. These laterally extended lobes were also present in other pharate females I examined. Evidently, the lobes become more laterally appressed as specimens mature.

Distribution.—*Agapetus avitus* appears to be limited in range to a small portion of the southeastern United States in Tennessee and Alabama (Fig. 3). In Alabama, the species has been collected in Lauderdale County; in Tennessee records exist for Bedford, Coffee, Hardin, Perry, and Wayne counties. The species occurs in spring runs and in small, swift streams with rocky substrates. Adults have been collected from April through June.

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#### LITERATURE CITED

- Edwards, S. W. 1956. The Trichoptera of Reelfoot Lake with descriptions of three new species. J. Tenn. Acad. Sci. 21: 7-19.